treatment. Radium, likewise, has its place in similar therapy. This phase of the treatment of rhinophyma is, of course, to be placed in the hands of the dermatologist. Thus, stress should be placed on the complete coöperation between dermatologist and rhinologist in procuring the best results.

IN CONCLUSION

In concluding, the following points demand emphasis:

1. The actual causative etiology of rhinophyma is somewhat obscure, though the condition is recognized as a benign sequel of acne rosacea.
2. Adequate surgical treatment of rhinophyma is a relatively simple procedure.
3. The use of skin grafts, cautery, and electrocoagulation have been, in the main, discarded.
4. X-ray is very valuable in both pre- and postoperative treatment, and in some instances may be sufficient treatment, to the point of excluding surgery.
5. Full coöperation between dermatologist and rhinologist is essential in all cases of rhinophyma.

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DISCUSSION

PHILIP K. ALLEN, M. D. (314 Medico-Dental Building, San Diego).—I am most interested in this paper from a standpoint of therapy, particularly the cosmetic end-result. Inasmuch as rhinophyma does not endanger life nor impair health, the appearance is of prime importance. The condition is by no means a new one. It was known to Hippocrates and was described by the early Arabians. In more than two thousand years innumerable types of treatment have been advocated, most of them without real therapeutic value.

The nonsurgical treatment of rhinophyma has proved unsatisfactory. Local applications which are not caustic nor destructive may impede the progress of the disease, but do not reduce the hypertrophy. X-ray and radium therapy have, on the whole, proved disappointing, although occasionally pleasing results have been reported. McKee states in his book, "X-Ray and Radium in the Treatment of Diseases of the Skin": "X-ray (and radium) seem to be of very little real service in rhinophyma." Acne-like lesions do disappear under x-ray treatment, and the sebaceous glands will become smaller and less active. In a markedly enlarged nose, however, the limited shrinkage that can be effected by x-ray does not give satisfactory end-result. Its usefulness is limited, therefore, to the early case in preventing further hypertrophy. Where considerable enlargement has taken place other forms of treatment, mainly surgical, are indicated.

Various types of surgical measures have been used. Acids, caustics, cautery, and scarification have all had advocates. It seems odd that the simple and most obvious procedure of carving the nose down to the desired size and shape should be left to comparatively recent times.

The good results in such a simple sculptural operation are due to the anatomy of the condition. Removal of hypertrophic tissue leaves sufficient basal epidermal cells to insure rapid and complete epithelialization.

I agree with the essayist that the best cosmetic results are to be obtained by surgical excision of the hypertrophic tissue; but I would suggest, as an aid to prevent subsequent regrowth, the use of the x-ray as soon as epithelial regeneration has taken place.

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F. G. NOVY, JR., M. D. (411 Thirtieth Street, Oakland). Doctor Crabtree should be commended on emphasizing the simplicity of the surgical treatment of rhinophyma. The use of skin grafts and complicated surgical procedures are unnecessary, as epithelialization takes place rapidly from the remains of the sebaceous glands.

I do not agree with the author regarding the use of electrodesiccation. If this modality is used with a low current and care, good results may be obtained. Klauder (Arch. Dermat and Syph., 33:885, May, 1936), recently reported a satisfactory technique. He inserts the electrodesiccating needle (unipolar method) into the mass, and a low current is then turned on until a small area is blanched. This is then curetted until bleeding occurs, when another area is treated or the same area is again treated if further destruction is desirable. The advantages of this method are that the operation is nearly bloodless and the cosmetic result compares favorably with surgical excision.

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K. C. BRANDENBURG, M. D. (110 Pine Avenue, Long Beach).—We are indebted to Doctor Crabtree for presenting us with a simple but effective remedy for a most disfiguring condition which, though it does not endanger life, may render existence extremely unpleasant to the individual suffering from this hideous deformity of the nose.

It is surprising that the ingenious expedient of shaving off the redundancy has not been resorted to before; but, as with so many other simple procedures, we must be shown by someone with Doctor Crabtree's courage and good sense.

The importance of rehabilitating these individuals is much greater than anyone who has not suffered from such a disfiguring condition can realize. As is also the case with crossed eyes, these unfortunate individuals are frequently highly sensitive about the matter and find it a marked social disability.

The knowledge that an effective treatment is available will be most welcome to wearers of "whisky noses."

SCABICIDAL DRUGS: AN EXPERIMENTAL STUDY*

By H. J. TEMPLETON, M.D.
AND
H. V. ALLINGTON, M.D.
Oakland

DISCUSSION *by George V. Kulchar, M. D., San Francisco; Hiram E. Miller, H. D., San Francisco; Samuel Ayres, Jr., M. D., Los Angeles.*

SCABIES is a disease whose treatment we generally approach quite confidently, feeling that we have in sulphur a near-specific which, in the great majority of cases, is rapidly curative. However, we have all had the experience of treating patients whose scabies was cured only with great difficulty, even though not complicated by irritation from the sulphur and though the balance of the family were properly treated and the clothing adequately sterilized. Such experiences have modified, to a certain extent, our former cocksure attitude in regard to the ease of curability of this disease.

KINGSTON'S STUDIES

This attitude was intensified, and the present experimental work stimulated by an interesting

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TABLE 1.—*Survival Times of Acarus Scabeii in Various Remedies*

Tap water	8 days+
Vaselin, white	50 hours
Sulphur precipitate, 8 per cent in vaselin	40 hours
Sulphur, colloidal, 10 per cent in vaselin [1]	15 hours
Sulphur, colloidal, 5 per cent aqueous solution [2]	5 hours
Scabicide [3]	1 hour, 5 min.
Mitigal [4]	50 min.
Balsam Peru, 8 per cent in vaselin	30 min.
Styrax [5]	30 min.
Creolin, 1 per cent in vaselin	1 hour, 10 min.
Betanaphthol, 2 per cent in vaselin	1 hour, 5 min.
Pyrethrum Ointment [6]	21 hours

[1] H. K. Mulford Company, San Francisco.
[2] Associated Physicians' Laboratory, San Francisco.
[3] Upjohn Company.
[4] Winthrop Chemical Company.
[5] ℞ Styracis Liquidi 14.
Ol. Olivae.
Spts. Vini Recti āā 20.
M. Sig:
[6] Upsher Smith.

article by Kingston[1] entitled "An Outbreak of Scabies in a Mental Hospital." Using an apparently adequate and careful technique of treating scabies by means of Sulphur Ointment B. P., he came to certain discouraging conclusions, which I will quote:

Out of ten certain cases of scabies in mental patients, not one was cured by two courses of sulphur ointment treatment. A total of thirty-three courses of treatment resulted in five cures and five failures.

Kingston then performed some interesting experiments testing the scabicidal powers of various antiscabetic remedies. He dug out of patients burrows, active living female acari, and imbedded them in different remedies. These acari were then observed under the microscope until all movements of extremities and viscera had ceased, which point was taken to indicate death. His results are given in Chart 1.

AUTHORS' STUDIES

Inasmuch as Kingston did not study many of the scabicidal remedies in use in this country, we have performed similar experiments with different preparations.

Our method of procedure consisted of removing acari from the burrows of untreated patients, and imbedding four to eight lively specimens under a cover glass in each remedy to be studied. These were observed microscopically until all movements ceased. The survival times are indicated in Table 1.

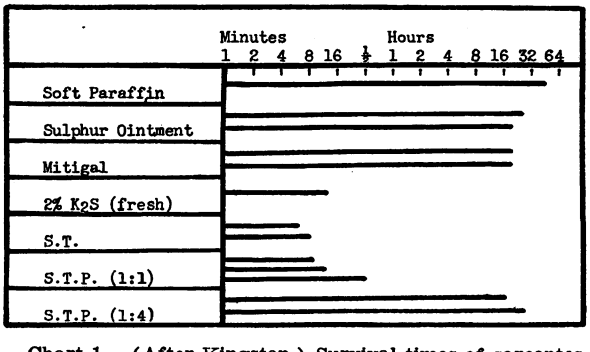

Chart 1.—(After Kingston.) Survival times of sarcoptes in various media (logarithmic scale). S. T. 1 per cent solution of sulphur in oil of turpentine B. P. S. T. P. (1:1) equal parts of S. T. and liquid paraffin B. P. S. T. P. (1:4) one part of S. T. to four parts of liquid paraffin B. P.

We are perfectly aware that the scabicidal property of any drug *in vitro* does not necessarily parallel its clinical value. The discrepancy between the proved clinical worth of sulphur and its slow killing time in our experiments might be explained by the theory that it is changed to the nascent state by the acids of the skin when it is applied to a patient. This could not hold true, however, of all of the other drugs studied. Therefore, it is our belief that the method of determining the scabicidal power of drugs *in vitro* is of practical value, and merits further attention in the search for more effective remedies.

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DISCUSSION

GEORGE V. KULCHAR, M. D. (450 Sutter Street, San Francisco). — The evaluation of scabeticidal preparations by clinical methods is not entirely satisfactory, and for several reasons. Patients frequently do not carry out the routine properly, particularly in regard to sterilizing their wearing apparel, bed linen, and so forth, and reinfections are seen commonly. The thoroughness with which the patient applies the preparation and the thickness of the epidermis seem to be factors in the therapeutic efficiency of the commonly used scabeticides. To a certain extent one can prove the efficiency of a scabeticidal preparation by recovering the acari from lesions and determining, by microscopic examination, whether they are dead. At the same time, however, if one searches diligently in a patient who gives the clinical impression of being cured, an occasional live acarus can be recovered. The method proposed by Doctor Templeton certainly provides a more accurate means of evaluating scabeticidal preparations.

HIRAM E. MILLER, M. D. (384 Post Street, San Francisco). — The authors' experiments with various antiscabetic remedies are most interesting. Their experimental results, however, do not coincide with clinical experience. It is well known, as they state, that sulphur is chemically changed when it comes in contact with the skin, and its efficacy in destroying the acarus of scabies is probably greatly enhanced by this change. Ringworm fungus will thrive on a culture media containing three per cent sulphur, but tinea circinata can generally be easily cured with a three per cent sulphur ointment. These experimental results would erroneously infer that one per cent creolin is much superior to sulphur in the treatment of scabies. I should have thought that petrolatum would mechanically destroy the acarus in a very short period of time.

This work is most instructive and worth while, and I am certain that the authors are fully cognizant of all the points that I have mentioned.

SAMUEL AYRES, JR., M. D. (2007 Wilshire Boulevard, Los Angeles). — As Doctors Templeton and Allington have stated, the problem of treating scabies is by no means a closed chapter, and they have offered us a rational method for improving our therapy of this common and occasionally obstinate disease. We have never depended upon sulphur ointment alone, but have employed the formula long in use at the Massachusetts General Hospital:

Betanaphthol	2
Sublimed sulphur	4
Balsam Peru	15
Petrolatum	15

It is interesting to note, from the table presented, that both betanaphthol and balsam Peru in concentrations much less than employed in this formula are among the most active scabicidal drugs tested. In this case the experimental findings confirm our clinical experience of the remarkable efficacy of this particular combination of substances. By further experimentation along the lines suggested by the authors of this paper, however, it is entirely reasonable to assume that a more efficacious and less irritating remedy will be found.

URINARY TRACT INFECTION WITH "CLEAR URINE" *

By JAMES R. DILLON, M.D.
San Francisco

DISCUSSION *by Robert V. Day, M.D., Los Angeles; F. S. Dillingham, M.D., Los Angeles; Charles P. Mathé, M.D., San Francisco.*

IT is surprising how many times medical men fail to recognize urinary tract infection in fairly typical clinical pictures because there is no pus in the urine, which may be macroscopically clear. This occurs particularly in both the acute and chronic coccal kidney infections, where the microscopic examination of the urine may show only a few red cells, few or no pus cells, and by the ordinary routine bacteriologic examination, few or no cocci. The urine in acute bacillary infections is practically always cloudy macroscopically, but microscopically may show only a few or no pus cells; the cloudiness being due to bacilli only, which is often considered a contamination, and the patient is treated as a "flu" condition, or possibly extensive examinations are carried out to differentiate typhoid, malaria, and other infective conditions, with a neglect of the urinary tract. Chronic bacillary infections also frequently occur with macroscopically clear urines which reveal no pus microscopically, and few or no bacilli are reported by the bacteriologist. This report is presented for the consideration of the diagnosis and etiology of various clinical pictures rather than treatment, it being evident from the histories of patients of repeated urologic examinations that diagnosis in this type of case is frequently missed by the urologists as well as internists. Nor does it include the cortical renal lesions or the so-called carbuncle of the kidney; nor the perirenal abscess types.

About fourteen years ago my attention was first attracted to the possibility that sometimes bacteria appear in the urine in "showers" during the acute stage, which may last only a few hours, and with three or four voidings the urine may be entirely clear of pus and with relatively few or no bacteria present.

REPORT OF CASE

CASE 1.—A medical woman, actively practicing with her husband, also a medical graduate, complained of a pain in her right side, ran a low-grade temperature, rarely reaching 100 degrees, except during the acute attacks. The pain and tenderness seemed to be definitely in her right kidney, but cystoscopic examination and pyelograms by three different urologists, over a period of one year, showed normal pyelograms and negative urine reports from the bacteriological laboratories. One of the urologists passed four catheters up the right ureter, three of them stopping just below the pelvic brim at the site of an apparent ureteral stone shown in the x-ray, but at surgery this proved to be a phlebolith, and she continued to have her attacks. She resided about one hundred miles from San Francisco, and would have an attack (at intervals from two to six weeks) of rise in temperature, increased pain and tenderness, burning and frequency of urination. Samples of the urine during this onset would be loaded with pus and colon bacilli. She would start by automobile with the onset of the attack, and by the time she reached my office, in about three and one-half hours, voiding three or four times on the way, a catheterized specimen would be crystal-clear and the bacteriological laboratory report would be negative. On the eighth trip pus and colon bacilli were found in a catheterized specimen, and an immediate cystoscopic examination and collection of segregated urines showed the left kidney sterile and the infection entirely in the right kidney. Her tonsils had been removed and all possible foci checked by myself, as well as the two preceding urologists. Doctor Rigdon had been in consultation several times, and we finally decided it was a blind abscess in the renal cortex, which at times discharged into the renal pelvis. At operation we thoroughly exposed the kidney, pelvis, upper end of the ureter pedicle, and finally did a nephrotomy, exposing the pelvis from pole to pole. Cultures taken of the urine in the pelvis, on opening it, and sections of renal parenchyma were negative for signs of infection or pathology. She made an uneventful recovery, but I carried a guilty conscience until I met her several years afterward and she thanked me again, stating she had never had another attack after the operation.

OTHER TYPES

Cases of urethritis in males with coccal infections, showing a very slight purulent or mucopurulent discharge, or merely a glueing of the meatus in the morning, are sometimes treated over an indefinite period as a chronic gonorrhea or gleet. The two- or three-glass test may show all crystal-clear, with the first glass containing a few shreds, or possibly presenting a faint haze. The bacteriologic report of the second or third glass, as ordinarily done, will generally be negative, few or no pus cells, few or no red cells, or a few described bacteria, either coccal or bacilli, and if there is a scanty growth on the cultures, the opinion will be expressed "probably contamination," and the patient goes on being treated as an urethritis. I have had bacteriologists make the statement to me, when their cultures are slightly positive, that they were probably contaminations because the smears of the sediment did not show any pus. Men will also frequently appear complaining of frequency of urination, with slight bladder-neck sensitiveness or consciousness, revealing a macroscopically clear urine with a negative pus and bacteriologic report, and if the patient has no chronic prostatitis, he is lucky if he does not have one immediately made by repeated massaging. Or, if he is fortunate in having his prostate acquitted at the first trial, he may be retried and condemned as a neurotic. These bladder-neck irritabilities occur in both men and women, who suffer for indefinite periods because a diagnosis and cause is not ascertained. There are other clinical pictures appearing as a septic condition, with no symptoms referable to the urinary tract, and presenting macroscopically clear urine.

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* Read before the Urology Section of the California Medical Association at the sixty-fifth annual session, Coronado, May 25-28, 1936.